

### AMENDMENTS TO THE SPECIFICATION

Example 3 at page 10 of the Specification and the Abstract have been amended below.

#### Example 3

9.7 g of dicyanate of Bisphenol A (compound II wherein  $R^1$ - $R^4$  is H,  $R^5$ - $R^8$  is H, Z is isopropyl) and 2.5 g of a fully fluorinated monocyanate (compound I wherein R is  $C-(CF_3)_2$   $CH(CF_3)_2$ ) are heated to 140°C in a sealed vessel for a time of about four hours. The reaction is terminated before gelling starts, and a clear, pale yellow prepolymer is obtained which is viscous at 140°C and is solid at room temperature. The prepolymer is brought into solution by mixing it with 50 % by weight of EEA. Spin-coating of this solution onto a substrate made of silicon wafer yields a layer which may be cured at 240°C for one hour in a drying oven. The product has a refractive index of 1.5596 at 1.55  $\mu$ m.

**Abstract:** The present invention is directed to wave guide systems or structures or parts thereof, characterized in that they consist of or comprise a resin composed of at least one polycyanate copolymer, obtainable by copolymerization of at least one specific difunctional cyanate with at least one monocyanate of the formula  $N\equiv C-O-R$ , wherein R is a straight or branched non-aromatic hydrocarbon radical or a non-aromatic hydrocarbon radical comprising a cyclic structure, the radical having the formula  $C(R')_2-CFR''_2$  wherein each R' is, independently from the other, hydrogen or fluorine or an optionally substituted, preferably fluorinated alkyl or alkenyl group, and each of R'' may independently be defined as R' or may have

an aryl structure. The at least one difunctional cyanate is selected from aromatic dicyanates having two aryl rings, connected with each other by a group Z wherein Z is a chemical bond,  $\text{SO}_2$ ,  $\text{CF}_2\text{CH}_2$ ,  $\text{CHF}$ ,  $\text{CH}(\text{CH}_3)$ , isopropylene, hexafluoroisopropylene, n- or iso- $\text{C}_4$ - $\text{C}_{10}$  alkylene,  $\text{O}$ ,  $\text{NR}^9$ ,  $\text{N}=\text{N}$ ,  $\text{CH}=\text{CH}$ ,  $\text{C}(\text{O})\text{O}$ ,  $\text{CH}=\text{N}$ ,  $\text{CH}=\text{N}-\text{N}=\text{CH}$ , alkyl oxyalkylene having 1 to 8 carbon atoms,  $\text{S}$ ,  $\text{Si}(\text{CH}_3)_2$ , and  $\text{R}^9$  is hydrogen or  $\text{C}_1$ - $\text{C}_{10}$  alkyl. The polycyanate copolymer may further comprise an aromatic monocyanate and/or one or more of brominated cyanates. The polycyanate copolymers are advantageously selected for the preparation of optical waveguide systems or structures or parts thereof because they have low optical losses at 1.3 and 1.55  $\mu\text{m}$ .

FINNEGAN  
HENDERSON  
FARABOW  
GARRETT &  
DUNNER LLP

1300 I Street, NW  
Washington, DC 20005  
202.408.4000  
Fax 202.408.4400  
www.finnegan.com